OMRON

Programmable Terminal

NP Series

Easy Setup with the Low-cost, Compact NP Series

realizing

Simpler and More Versatile.OMRON's Compact NP Series Connect!

Easier connection to OMRON PLCs and Temperature Controllers, plus high-speed transfer of image data via USB.

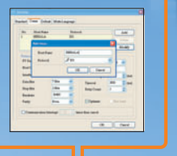
CP1L/H Programming Console Function Provided as Standard Feature

No need to carry a computer to the site to perform simple maintenance work.

EJ1

Serial
RS-232C
RS-485
RS-422A

CP1L



Compoway/F

Connect directly to an EJ1 Temperature Controller via RS-485

Template screens can be used immediately.

PC

Setting

USB

Screen data can be transferred with a USB memory stick, eliminating the need to carry a computer to the site.

Improved Efficiency and Speed from Set Up to Operation!

What do you need in a NP Series? Display visibility, information capacity, low costs? OMRON provides all of these and goes further to reduce the TCO, including operating efficiency, by enabling connection of various control devices, easy design work, and the smoothest possible connections.

Note : The above illustration is a conceptual diagram only. For information on connecting the PT, refer to the user manuals.

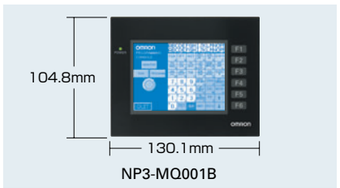
Easy Assembly

Hardware

Compact Operating Section

Compact design reduces the mounting work.

At 130.1×104.8mm (NP3:W×H), this NP Series is small enough to be mounted in the same space as a handful of switches, and it requires only one mounting hole in the control panel. You get less work and a less crowded operating section.



Install in Most Environments

IP65 water resistance.

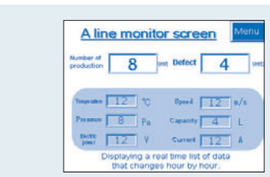
The front of the panel has IP65 water resistance, allowing the NP Series to be used in environments where mist or splashing cooling water is present.

Note:The unit may not be able to be used in locations with long -term exposure to oil and water. For details on the installation environment, refer to the user manual.

Compact,Yet Plenty of Information

The NP3 can display the same amount of information as a 5-inch NP Series.

Using a 3.8-inch QVGA LCD, this NP3 is able to clearly display 8 grayscale levels in monochrome. The advanced display capabilities equivalent to those of a 5-inch NP Series improve the efficiency of onsite operations.



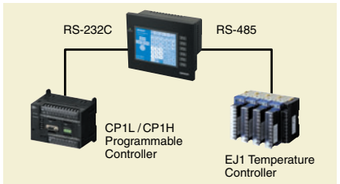
Easy Connection, Easy Wiring

Conecterbility

Reduce Connection Design and Onsite Work

Excellent matching with OMRON control devices.

The NP Series provides an OMRON CP1L/CP1H PLC Programming Console function, and connects to OMRON EJ1 Temperature Controllers. The NP Series can be operated immediately using the sample screens included with the NP-Designer (Support Software).



Use PLCs from Other Companies

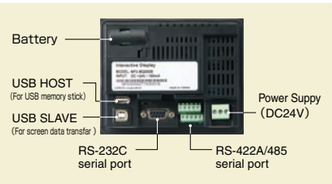
Multivendor support is provided for major global manufacturers.

Including OMRON and Mitsubishi, support is provided for PLCs from major global manufacturers. The NP Series can be used with your current PLC without redesigning the system. It doesn't matter if you use a different PLC manufacturer for each project.

Reduced Wiring Work

Wiring with a single cable.

The NP Series is equipped with both a RS-232 port and a switchable RS-422A/485 port so you can connect to a PLC or Temperature Controller with a single cable. You get reduced wiring work and easier maintenance.



※ NP3-MQ000B, NP3-MQ000, NP3-MQ001B, NP3-MQ001

QVGA LCD

Compact design and easy setup! Compatible with your current PLC.

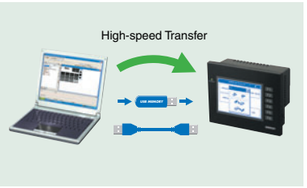
Easy to Use

Operation

Use a Computer USB Port

Transfer screens at high speed.

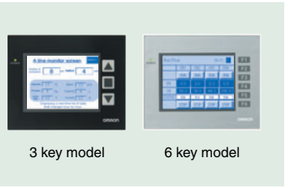
The USB interface lets you take full advantage of the computer software environment. Transfer screens created on the computer to the NP Series at high speeds. Or use a USB memory stick to transfer screen data without bringing a computer on-site.



Easier On-site Operation

Models are available with either of two function key layouts.

Models with two different function key layouts are available to meet the needs of your application design. The NP Series case is also available in two different colors: black or silver.



Use the Same Equipment Worldwide

Multi-language Support.

The NP Series, screens, and Support Software are supported in English, Chinese, many European languages, and Japanese. Also, the NP Series meets international standards so it can be exported or imported across country borders easily.

Example of Applications That Provide Added Value to Equipment

Packing Machines

Simplified design and processing.
Operated by touching the screen.

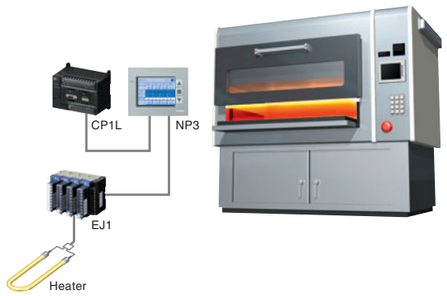
Design Easy screen design by using NP-Designer.

Assembly No panel processing and wiring for lamp switches needed.

Operation Operation and monitoring status can now be achieved with one NP Series. No need for additional processing for additions or modifications.

Food Processing Equipment

Direct connection to Temperature Controllers.
Operate the NP Series even with wet hands.



Design Enhanced design with silver case that matches stainless-steel equipment.

Assembly Connect directly to EJ1 to reduce wiring.

Operation IP65 protection allows application in wet environments.

NP Series Line UP

	3Key Type		6Key Type	
3.8 inches **Monochrome STN** QVGA 320×240 pixels	NP3-MQ000B 	NP3-MQ000 	NP3-MQ001B 	NP3-MQ001
5.7 inches **Monochrome STN** QVGA 320×240 pixels	NP5-MQ000B 	NP5-MQ000 	NP5-MQ001B 	NP5-MQ001
5.7 inches **Color STN** QVGA 320×240 pixels	NP5-SQ000B 	NP5-SQ000 	NP5-SQ001B 	NP5-SQ001

Ordering Information

Model name	Specifications				Model number
	Effective display area	Number of pixels	Number of function keys	Case color	
NP3	3.8-inch STN monochrome	320×240	3	Black	**NP3-MQ000B**
				Silver	**NP3-MQ000**
			6	Black	**NP3-MQ001B**
				Silver	**NP3-MQ001**
NP5	5.7-inch STN monochrome	320×240	3	Black	**NP5-MQ000B**
				Silver	**NP5-MQ000**
			6	Black	**NP5-MQ001B**
				Silver	**NP5-MQ001**
	5.7-inch STN color	320×240	3	Black	**NP5-SQ000B**
				Silver	**NP5-SQ000**
			6	Black	**NP5-SQ001B**
				Silver	**NP5-SQ001**

Performance / Specifications

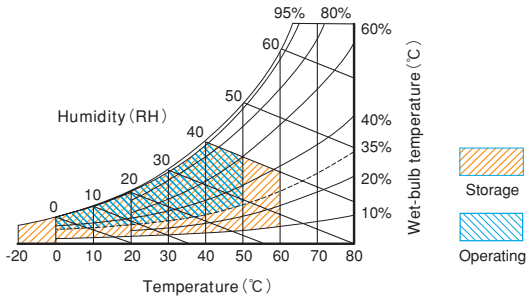
Series			NP3				NP5							
Type			3.8 STN LCD				5.7 STN LCD							
Model number			NP3-MQ000	NP3-MQ001	NP3-MQ000B	NP3-MQ001B	NP5-MQ000	NP5-MQ001	NP5-MQ000B	NP5-MQ001B	NP5-SQ000	NP5-SQ001	NP5-SQ000B	NP5-SQ001B
Display device			Monochrome LCD				Monochrome LCD				Color LCD			
Effective display area			Width 78.8mm × height 59.6 mm (3.8 inches)				Width 121.4mm × height 92.6 mm (5.7 inches)							
Case color			Silver		Black		Silver		Black		Silver		Black	
Number of function keys			3	6	3	6	3	6	3	6	3	6	3	6
Display color			Monochrome/8 grayscale levels								256 colors			
Number of pixels			320 pixel horizontal × 240 pixel vertical											
View angle			Left / right ±30°, Top 10°, Bottom 30°											
Screen data capacity			3MB											
Image data (BMPor JPG images)			8 grayscale levels								256 colors			
Memory Card			Supported (Use USB memory stick (FAT32))											
Touch panel		Method	Resistive membrane analog type											
		Input	Pressure-sensitive											
		Service life	1,000,000 touch operations min											
Serial Communi-cations	COM1	Connector	Conforms to EIA RS-232C D-Sub female 9-pin connector 5 VDC output (250 mA max.) through pin 6											
	COM2	Connector	Conforms to RS-422A / 485 10-pin terminak block											
USB SLAVE Specifications		USB rating	USB1.1											
		Connector	TYPE-B (Slave)											
USB HOST Specifications		USB rating	USB1.1											
		Connector	TYPE-A (Host)											

General Specifications

Item	Specifications
Rated power supply voltage	24 VDC
Allowable voltage range	21.6 to 27.6 VDC (24 VDC -10% to +15%)
Allowable input power interruption time	No restriction
Power consumption	12W max
Ambient operating temperature	0 to 50°C (See notes 1 and 2)
Storage temperature	-20 to + 60°C
Ambient operating humidity	35 to 85%RH with no condensation (0 to 40°C) (See notes 2.) 35 to 50%RH with no condensation (40 to 50°C) (See notes 2.)
Operating environment	No corrosive gases
Noise immunity	Conforms to IEC61000-4-4, 2 KV (power lines)
Vibration resistance (during operation)	5 to 9 Hz with 3.1 mm amplitude and 9 to 150 Hz with 9.8 m/s² acceleration for 30 min in each of X, Y, and Z directions
Shock resistance (during operation)	147 m/s² 3 times in each of X, Y, and Z directions
Weight	NP5 : 900g max NP3 : 500g max
Enclosure rating	Front panel: IP65F oil proof (See note 3)
Battery life	5 years (at 25°C)
International standards	EC Directives, cULus (UL508)

(Note 1) When a STN LCD display device is used, the display quality will decline (e.g., the contrast ratio will be reduced) if the temperature exceeds 40°C. Also, when the temperature drops, the response speed is lowered due to characteristics of liquid crystals.

(Note 2) Operate the PT within the temperature and humidity ranges shown in the following diagram

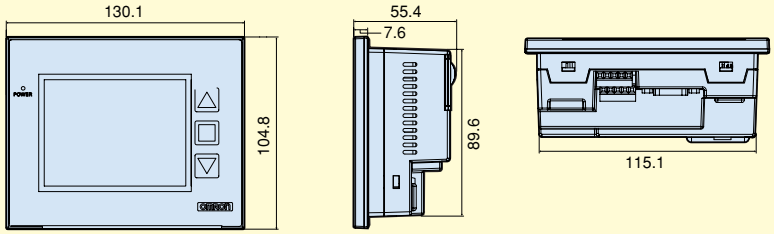


(Note 3) May not be applicable in locations with long-term exposure to water or oil.

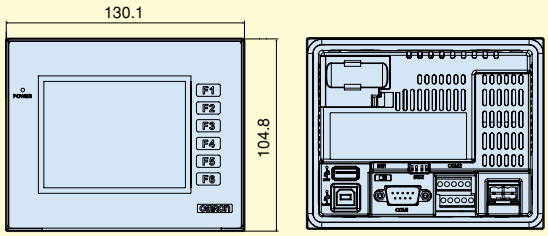
Dimensions

(Units : mm)

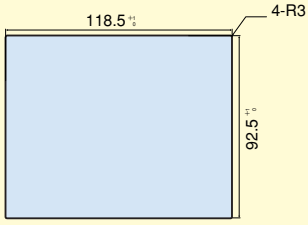
NP3-MQ000B
NP3-MQ000



NP3-MQ001B
NP3-MQ001

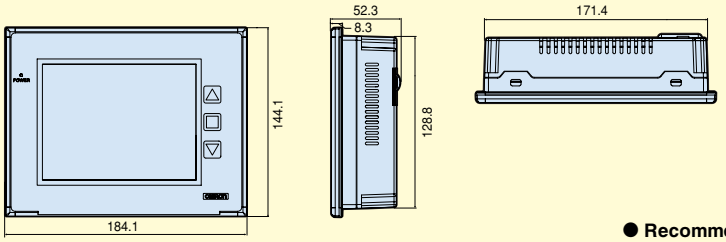


● **Recommended Panel Cutout Dimensions**

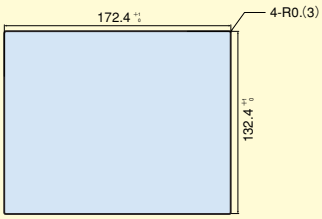


※ Panel thickness : 1.6 to 2.5mm

NP5-MQ000
NP5-MQ000B
NP5-SQ000
NP5-SQ000B

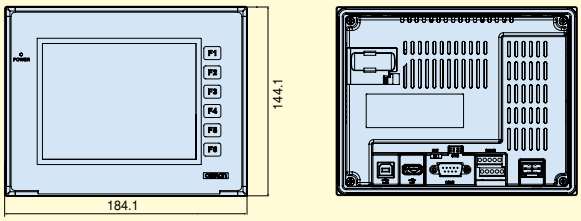


● **Recommended Panel Cutout Dimensions**



※ Panel thickness : 1.6 to 2.5mm

NP5-MQ001
NP5-MQ001B
NP5-SQ000
NP5-SQ001B



OMRON Corporation
Industrial Automation Company

Control Devices Division H.Q.
Analog Controller Division
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81)75-344-7080/Fax: (81)75-344-7189

Regional Headquarters

OMRON EUROPE B.V.
Wegalaan 67-69, NL-2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC
1 East Commerce Drive, Shaumburg,
IL 60173 U.S.A.
Tel: (1)847-843-7900/Fax: (1)847-843-8568

OMRON ASIA PACIFIC PTE. LTD.
83 Clemenceau Avenue,
#11-01, UE Square,
239920 Singapore
Tel: (65)6835-3011/Fax: (65)6835-2711

OMRON CHINA CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Road (M)
Shanghai, 200120 China
Tel: (86)21-5037-2222/Fax: (86)21-5037-2200

Authorized Distributor:

Note: Specifications subject to change without notice.

Printed in Japan
0807-(0807)(W)

Cat. No.V101-E1-01